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(54) **Television receiver with apparatus for the quick exchange of data concerning instructions and/or functions**

(57) A television receiver (1) with apparatus for the exchange of instructions and/or information (2) is described; the main characteristic of the described television receiver consists in that a device (5) is joined to the control group (3) of the television receiver for reading/writing electronic cards (6) containing data and an elaboration and control (7,9) group of exchangeable data with the card, for writing and/or reading from the memory (4) associated to the control group (3) of the television receiver (1) data respectively present in or destined to the card (6).

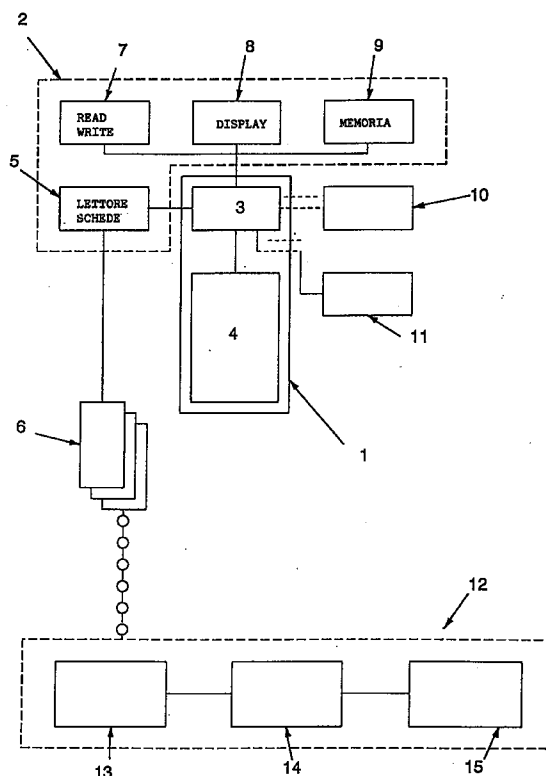


FIG. 1

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Description

The subject of the present invention refers to a television receiver with apparatus for the rapid exchange of instructions and/or information.

With television receiver it is herein intended a television set, a video recorder, or any other apparatus able to receive and manipulate television signals.

Television receivers are known provided with a control group comprising a memory wherein instructions and/or relevant operative information is stored concerning the programming of channels, the setting-up of the television receiver or other; periodically the stored data is updated and this involves spending a certain amount of time on the television receiver and the intervention of personnel able to materially carry out the operation: in the case, for example, of managing a high number of television receivers, such as hotels for example, community centres, hospitals or similar, the data updating operation involves extremely high charges: therefore such operations are often hurriedly carried out, by inexperienced personnel and with unsatisfactory results.

The technical task of the present invention is that of overcoming the cited drawbacks, to realise therefore a television receiver provided with apparatus for the rapid exchange of instructions and/or information that allows to carry out in an extremely rapid way the updating operations of setting-up the television receiver.

Another purpose of the present invention is to make available a television that is able to exchange with the user information of any nature that can easily be updated.

Another purpose of the present invention is that of avoiding the previous tasks with a simple structure, of relatively easy and practical realisation, of safe use and effective functioning, and also of relatively contained costs.

Such purposes and advantages are reached according to the present invention by way of a television receiver having the characterising features of the annexed claim 1.

Further details will result in being more clear and evident from the detailed description of a preferred, but non exclusive, embodiment of a television receiver with apparatus for the rapid exchange of instructions and/or information according to the invention, illustrated as an example, but non limiting, in the annexed tables of drawings, wherein:

the single figure is a block diagram of a television receiver equipped with a rapid exchange apparatus of instructions according to the invention.

With particular reference to such figure with 1 the television receiver is illustrated as a whole, equipped with an apparatus 2 for the rapid exchange of instructions and/or information according to the invention.

Only the elements of the television receiver 1 that are of interest to the invention are indicated in the figure

The apparatus 2 is connected to the control group 3 of the television receiver (control unit, usually comprising

a microprocessor), in turn connected with a non volatile electronic memory, for the storing of data, that it is schematically illustrated with 4, and may be advantageously expanded, for allowing it to store a greater quantity of data.

The apparatus 2 includes, coupled to the control group 3 of the television receiver:

- a device 5, of a known type, for the reading/writing of electronic cards 6;
- a card writing and reading control group, indicated with the number 7;
- a control group of the information display, indicated with the number 8; such group 8 may eventually be provided active only in the case in which the teletext function is active;
- a control group of the acquisition and storing of internal or external source data, indicated with the number 9.

These groups 5, 7, 8 and 9, that have been shown only as blocks in the figure, are able to introduce in the memory 4, by way of the control group 3 of the television receiver, data of the card 6 and/or to withdraw data from the memory 4 and report it on the card.

An eventual detection station or measuring of external data (temperature, humidity, or similar) can also be connected to the group 3, shown with 10, and an eventual receiver and teletext decoder circuit, indicated with the number 11.

Regarding practical aspects the television receiver normally already has groups 3 and 4; it may eventually already include the group 11 as well; group 10 may be inserted if desired in the television receiver 1 or in the apparatus according to the invention 2.

In any case the control group 3 must be duly connected with control groups 7, 8 and 9, advantageously by means of a data exchange bus (for example the known I2C bus, utilised in many television receivers).

The apparatus according to the invention allows to supply or withdraw data from the memory of the television receiver, eventually expanded, by means of said electronic cards, provided with memory means for storing data. For simplifying the storing operations of data retrieved from the cards it is also possible to realise a data elaboration group, shown as a whole with number 12, composed of a card reading unit, shown with number 13, arranged for connection to a personal computer, indicated with number 14, in turn equipped with a card data management program, and of a memory for the storing of data, shown with number 15; such complex 12 can naturally be used for carrying out further data elaborations.

The kinds of information that can be duly exchanged, are numerous:

- instructions for the updating of programming channels,
- statistical detection of channels and viewing times,

- ambient measuring and detection carried out by the sensors, or others.

In practice with the simple introduction of the card in the read/write device 5 it is able to:

- copy with a single operation all the adjustments of one apparatus to another (tuning, programming of channels, adjustment of levels, etc.), characteristics which are more than useful for installers, dealer, hotels, community centres;
- transfer of data of the television receiver to an external apparatus (such as a personal computer equipped for reading/writing of cards and a suitable elaboration program) in a more simple and immediate way;
- file and to utilise when needed different adjustments of the apparatus (for example, a hotel can prepare a different programming of the channels depending on the nationality of the guest; or a tradesman can adjust all channels in an uniform way on all the apparatuses);
- read the adjustments and the state of the apparatus without having to move the apparatus itself, but simply transferring the card (distance diagnosis of breakdowns, etc.);
- enable the vision of some programs only by inserting the card (adult and children's channels, etc.);
- enable the vision with cards "to deduct" (pay channels, etc.);
- enable the vision only in established periods by way of the card;
- utilise the television receiver for collecting viewing data of different broadcasters, preferential viewing hours, etc. The low cost of the solution also allows for applying the viewing analysis to hotels and small communities;
- utilise the television receiver for also collecting data of external sources (consumptions, attendance, working hours, etc.), simply providing it with suitable elements and relative connections;
- utilise the television receiver as a timing clock for controlling personnel in hotels and clinics, for surveillance, and so on.

It is to be noted how the same card may be utilised for numerous functions simultaneously, even with external devices: in a hotel, for example, a card can authorise the vision of some channels, function as a payment card for others, and can function as electronic key for the door of the room.

The television receiver may be equipped with video graphic capacity, as for example is the case of apparatuses equipped with teletext (or even only of the relative graphic display circuitry). The management program can then be realised for also utilising the information of the card. The possibility to insert information in the internal memory of the television receiver in a practical and fast way therefore allows:

- to insert informative video pages;
- to insert publicity information;
- to insert useful information or of general interest;
- to directly consult on the television receiver the information contained in the card.

The apparatus according to invention allows for controlled diffusion of information within a community, for example a clinic, hotel, and similar, in an extremely simple and economical manner, therefore also apt with reduced numbers of users.

It has been illustrated how the invention reaches the proposed aims. The invention thus conceived is susceptible of numerous modifications and variations all falling within the scope of the inventive concept. Furthermore all details may be replaced with others being technically equivalent.

In practice the materials used, and also the forms and sizes, may be any depending on requirements without departing from the scope of protection of the following claims.

For example in the case of use of the electronic card 6 for obtaining the viewing data of broadcasters, this can be read any evening or any morning (on the user's choice) by a suitable reader of the type such as that indicated with 13 (controlled by a microprocessor unit equipped with appropriate interfaces) and delivered by means of telephone or radio transmissions to a concentrator that in turn provides to forward the data to the central computer which elaborates the viewing statistics. Naturally, especially in the case of transmission via telephone, the reader of magnetic cards and the microprocessor unit that controls it, rather than sending data to a concentrator, could transmit it directly to the central computer. This solution is particularly advantageous with respect to those known, because it would allow for transferring viewing data from the television receiver to the telephone line without obliging the user to modify his own telephone system, for bringing the telephone line in proximity with the television receiver.

Claims

1. Television receiver (1) with apparatus for the exchange of instructions and/or information (2), characterised in that a device (5) is joined to the control group (3) of the television receiver for reading/writing electronic cards (6) containing data and an elaboration and control group (7,9) of exchangeable data with the card, for writing and/or reading from the memory (4) associated to the control group (3) of the television receiver (1) data respectively present in or destined to the card (6).
2. Television receiver according to claim 1, characterised in that it comprises a control group of the display of information (8) on the screen of the receiver (1).

3. Television receiver according to claim 1, characterised in that to the control group (3) of the television receiver (1) a measuring and/or detecting station of external data is connected. 5
4. Television receiver according to one or more of the previous claims, characterised in that it is arranged to be able to copy with a single operation all the adjustments of one apparatus to another (tuning, programming of channels, corrections of levels, etc.). 10
5. Television receiver according to one or more of the previous claims, characterised in that it is arranged for transferring data of the television receiver to an external apparatus (such as a personal computer) equipped with a card reader/writer. 15
6. Television receiver according to one or more of the previous claims, characterised in that it is arranged for storing and utilising when necessary different adjustments of the apparatus (for example a different programming of channels). 20
7. Television receiver according to one or more of the previous claims, characterised in that it is arranged for reading the adjustments and the state of the apparatus without having to move the apparatus itself, but simply transferring the card (distance diagnosis of breakdowns). 25 30
8. Television receiver according to one or more of the previous claims, characterised in that it is arranged for enabling the vision of some programs only by inserting the card (adult and children's programs). 35
9. Television receiver according to one or more of the previous claims, characterised in that it is arranged for enabling by way of the electronic card (6) the vision of particular channels (pay-tv). 40
10. Television receiver according to one or more of the previous claims, characterised in that it is arranged for utilising the television receiver for collecting the viewing data of different broadcasters. 45
11. Television receiver according to the previous claim, characterised in that the viewing data of different broadcasters, memorised on the electronic cards (6), is re-transmitted by the user, by means of an apparatus able to read the electronic cards (6), to a data receiving unit. 50
12. Television receiver according to one or more of the previous claims, characterised in that it is arranged for utilising the television receiver for displaying data contained in the electronic card (6) relative to locally available information (publicity information, informative video pages etc.). 55

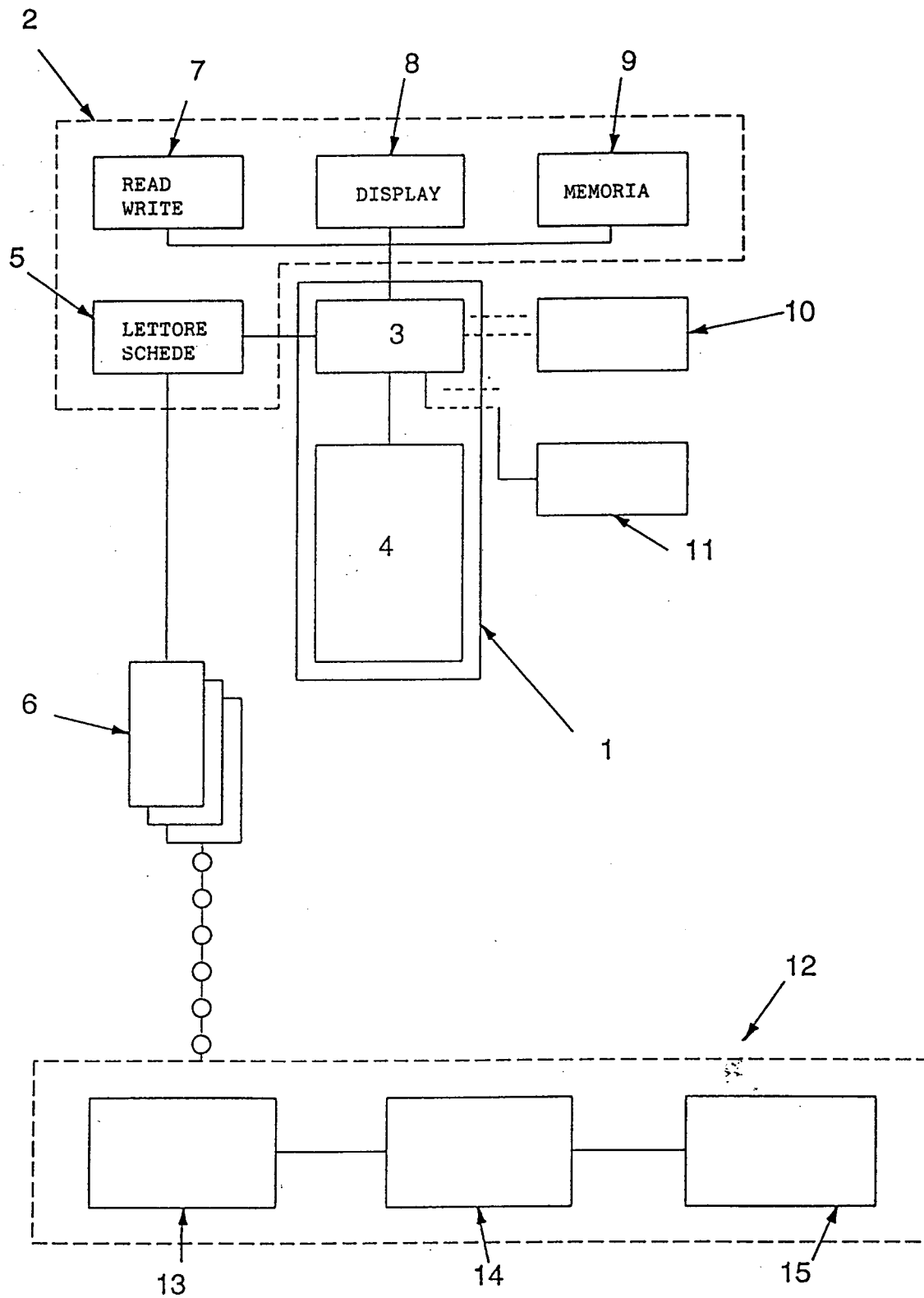


FIG. 1



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EUROPEAN SEARCH REPORT

Application Number
EP 94 11 8267

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	US-A-5 144 663 (KUDELSKI A. ET AL) * the whole document * ---	1,2,8, 10,11	H04N5/44 H04N5/50 //H04N7/16, H04H9/00
X	EP-A-0 317 404 (OCEANIC S.A.) * the whole document * ---	1,2,8,9, 11	
X	WO-A-93 07715 (THOMSON CONSUMER ELECTRONICS) * the whole document * ---	1,4,6	
X Y	WO-A-92 05657 (N.V.GLOEILAMPENFABRIEKEN) * the whole document * ---	1,4,6,7 5	
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Y	US-A-4 855 842 (HAYES J. ET AL) * column 2, line 31 - column 5, line 2 * * column 7, line 11 - column 9, line 46 * * column 14, line 40 - column 16, line 57 * ---	5	
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The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 27 April 1995	Examiner Verschelden, J
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Application Number
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The present search report has been drawn up for all claims				
Place of search		Date of completion of the search	Examiner	
THE HAGUE		27 April 1995	Verschelden, J	
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document				

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			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
THE HAGUE		27 April 1995	Verschelden, J
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